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ABSTRACT

This workbook, designed for workplace literacy courses, contains materials for a mathematics review course focused on helping participants understand the meaning of numbers and arithmetic operations. Strategies are provided for increasing accuracy when doing computations with whole numbers, decimals, and percents. Applications to real work situations are used throughout with an emphasis on problem solving. Introductory materials include objectives, a topical outline, a course outline, and information on course time. The workbook contains lesson plans for 10 sessions (objectives, topics, method, evaluation, and materials needed), information sheets and problems to solve. Topics covered are as follows: mathematics anxiety, place value, problem solving, operations with whole numbers, reading charts and graphs, decimals, tolerance, measurements, percents, and paychecks. A pretest and a posttest with answers are included. (KC)

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Math Lab

Math Lab

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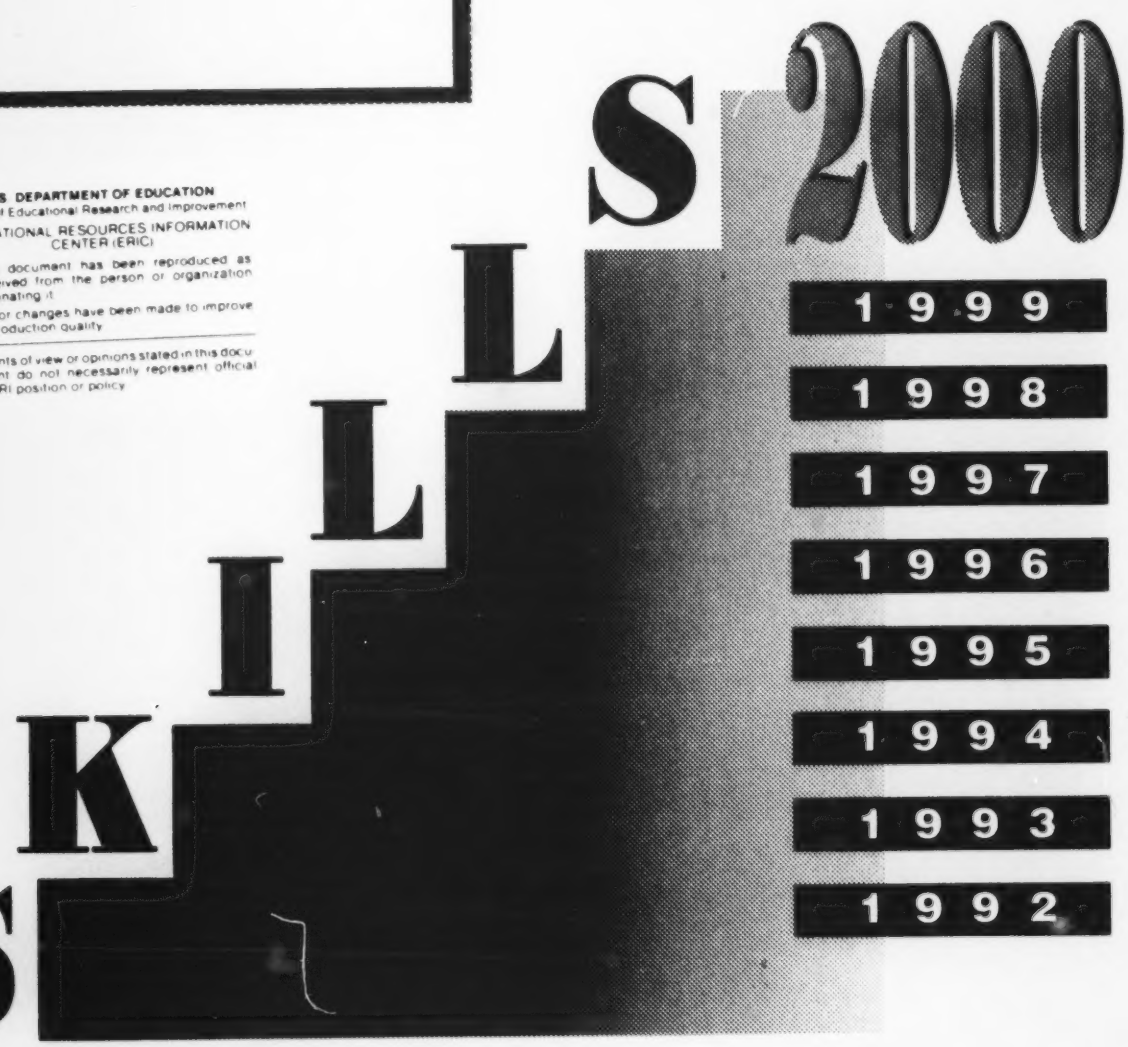

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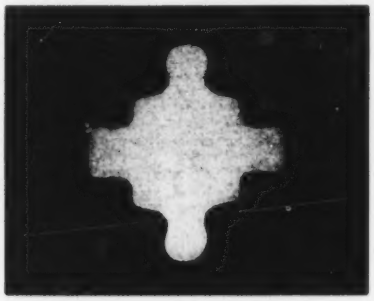
MATH LAB



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Director, Workplace Skills

Prepared under a United States Department of Education
National Workplace Literacy Grant

1994

ACKNOWLEDGMENT

Mercer County Community College thanks Jean Meier, Senior Education Specialist/Curriculum Developer for creating this manual. Through her valuable contributions employees in manufacturing and service industries learned concepts relevant to their existing jobs and strategies for learning other tasks if that opportunity should arise.

MATH LAB

COURSE OUTLINE:

This course is a review of basic number concepts focused on helping participants understand the meaning of numbers and arithmetic operations. Strategies are provided for increasing accuracy when doing computations with whole numbers, decimals and percents. Applications to real work situations are used throughout with an emphasis on problem solving.

OBJECTIVES:

Upon completion of this course, students will be able to:

- read and write whole numbers and decimals using a place value chart
- perform basic operations involving whole numbers and decimals
- calculate per cents
- apply number concepts in problem solving situations
- read and interpret charts and graphs

TOPICAL OUTLINE:

- place value
- computations with whole numbers
- computations with decimals
- per cent concepts
- problem solving
- measurement

OTHER:

- Hours: 20
- CEU: 2.0

MATH LAB

COURSE OUTLINE:

Session 1

- Math anxiety
- Place value
- Problem solving on the job
- Pretest

Session 2

- Operations with whole numbers

Session 3

- Reading charts and graphs

Session 4

- Understanding decimals
- Converting fractions to decimals
- Comparing decimals

Session 5

- Operations with decimals

Session 6

- Tolerance

MATH LAB

Session 7

- Measurements

Session 8

- Operations with percents
- Finding a percent of a number

Session 9

- Understanding a paycheck

Session 10

- Evaluations
- Post test

MATH LAB ◆ SESSION 1

OBJECTIVES:

Upon completion of this session, students will be able to:

- assess their level of math anxiety
- discuss the meaning and appropriate use of different types of numbers
- read and write whole numbers and decimals using a place value chart

TOPICS:

- math anxiety
- the appropriate use of different types of numbers in different contexts
- place value

METHOD:

- complete math anxiety self assessment
- discuss *Types of Numbers* handout
- complete *Place Value* handout

EVALUATION:

- self evaluation based on discussion of the work sheets
- pretest will be administered and graded so that progress can be assessed upon completion of the course

MATERIALS:

- handouts: Math Anxiety
  - ◊ Types of Numbers
  - ◊ Place Value
- pretest

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MATH LAB PRETEST

1. You need to make 1976 pieces. You have just finished 80. How many remain to be completed?

2. Add: $125 + $23.63

3. Monday you worked on a particular machine for 5 hours, on Tuesday 7 hours, Wednesday 3.5 hours, Thursday 5.5 hours and Friday 2 hours. What was the average amount of time per day that you worked on this machine?

4. Subtract: $20 - $.15

5. Which number is larger? 1.5 or 1.50

6. A pallet is being loaded by an operator with his stampings which weigh 5 pounds each. How many can the operator stack on the pallet if he has a weight limit of 600 pounds?

7. Multiply: 50 X 700,000

8. In the number 5812.57 what place is the 8 in?

   A. thousands B. hundreds C. tens D. ones

9. A role of sheet metal runs through a press at 35 ft./min. If it runs for 5 min. how much material will be used? How much will be used in 2 hours?

10. Divide: 518 ÷ 5

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PRETEST KEY

1. 1896
2. 148.63
3. 4.6
4. 19.85
5. same
6. 120
7. 3,5000,000
8. C. tens
9. 175 feet

   4,200 feet
10. 103.6

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TYPES OF NUMBERS

We are all surrounded by numbers on the job and at home. Do you recognize the following numbers? Where do you think you would see each one? (in what context?)

1. $8\frac{1}{2}$ x 11

2. five hundred sixty-seven and $\frac{92}{100}$

3. $\frac{9}{10}$

4.

5.

6.

7. XE 78 and XL 80

8. 180°

9. 90°

10. II and IV

11. What are whole numbers? What kinds of numbers are not "whole"?

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MATH ANXIETY

Self Assessment/ Self Awareness Inventory

Please respond to the following statements on a scale from 1 to 5:

Not Like Me	Somewhat Like Me	Occasionally Like Me	Usually Like Me	Very Much Like Me
1	2	3	4	5

1. Other people usually think of me as being good with numbers.
2. When doing arithmetic I usually feel confident I'll do it right.
3. Everyone around me understands more about math than I do.
4. I ask a lot of questions when I don't understand something to do with numbers.
5. I would rather have a job that didn't require any arithmetic.
6. Learning math means learning rules that I don't understand.
7. I'm scared that others will find out that I really don't know how to calculate things that I should be able to.
8. I feel sure I can learn how to do arithmetic if someone explains it to me.
9. My ways of working out math problems are different than the methods most everyone else uses.
10. I enjoy explaining to others who are new on the job how to do all the necessary calculations.

- ◊ What's your best experience in a math class?
- ◊ What's your worst experience in a math class?
- ◊ If you were better at math, what would you do that you don't do now?

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PLACE VALUE

Our number system is called a *decimal* number system. The prefix *deci-* means ten.

hundreds	tens	ones	tenths	hundredths	thousandths	
___	___	___	. ___	___	___	
1	0	0				one hundred
	1	0				one ten
		1				one whole
			.1			one tenth
			.0	1		one hundredth

Fill in the names of each place in the place value chart below:

___ ___ ___ ___ ___ ___ ___ ___ . ___ ___

Write the following numbers:

◊ thirty-seven million, four hundred two

◊ five hundred seven thousand

◊ fifty-seven thousand

◊ million

◊ five billion, twenty-four million, fifty-two

◊ trillion dollars

If you made a yearly salary of $100,000, how long would it take you to earn 4 trillion dollars?

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MATH LAB ◆ SESSION 2

OBJECTIVES:

Upon completion of this session, students will be able to:

- add/sub/mult/div using whole numbers
- use the appropriate operation in problem solving situations

TOPICS:

- operations with whole numbers
- problem solving

METHOD:

- discussion of worksheets
- groupwork

EVALUATION:

- self evaluation based on discussion of the work sheets

MATERIALS:

- handouts

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PROBLEM SOLVING

Problem solving often requires one operation or a combination of operations. You must decide which operation to use

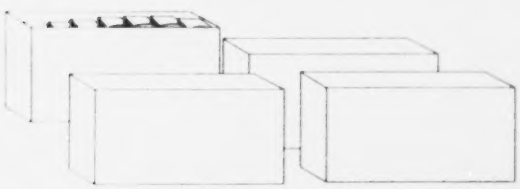
I. You have 23 folders. They are to be packed in boxes with 5 in each box. How many full boxes will you have? How many left over?

23 altogether
split up into separate boxes

[redacted]

When you *know the total* amount and you are *cutting it up* use division. *Divide* to determine the number of groups or the number in each group

II. A shipment of books arrives. There are 4 cartons with 7 books in each carton. How many are there altogether?



7 in one box
how many are there altogether?

[redacted]

If you *know* the number in *one* box and you *want* to know how much you have in *many boxes,* you should multiply.

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PROBLEM SOLVING

I. Define the problem.

- What are you trying to find out?

II. Plan the solution.

- What data is needed?
- What operations should be used?
- Use estimation to approximate the answer.

II. Solve the problem.

- Set up the calculations properly.
- Watch for copying errors.
- Check for calculator mistakes.

III. Check to see if the answer is reasonable.

- Does your answer fit with your initial estimate?
- Did you answer the question that was asked?

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1. A roll of sheet steel is 144 feet long and 3 feet wide. How many pieces 3 feet long and 2 feet wide can be produced from this roll?

2. A roll of sheet metal stock contains 8240 linear feet of strip steel. It is shortened at a rate of 25 feet per minute on a production run which lasts 3 hours. How much stock remains on the roll?

3. An automatic lathe produces .4 inch diameter bolts of various lengths at a rate of 30 per minute. It ran for a total of 3 hours. How many bolts were produced?

4. A company has an order for 536 sheet metal boxes. Each box uses 27 square feet of 20 gauge material. How many square feet does it take to fill the order?

5. A bar of steel 3 inches in diameter and 18 feet long weighs 180 pounds. How much would 36 bars weigh?

6. There are 480 boxes altogether. On a skid there are 8 cartons to a row and they are stacked 5 high. How many skids are necessary?

7. A shop received 170 packages of sandpaper. Each package contained 25 sheets. If each sheet was cut into 4 parts, how many parts were made?

8. A total of 284 parts are needed. They come packed 25 to a box. How many boxes do you need?

9. You need to make 5000 pieces. You have just finished 659. How many remain to be completed?

10. Divide: $530 \div 5$

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MATH LAB ◆ SESSION 3

OBJECTIVES:

Upon completion of this session, students will be able to:

- read charts and graphs
- use operations with whole numbers

TOPICS:

- reading charts and graphs
- operations with whole numbers

METHOD:

- guided discussion
- groupwork
- completion of worksheets

EVALUATION:

- self evaluation based on discussion of the work sheets

MATERIALS:

- handouts

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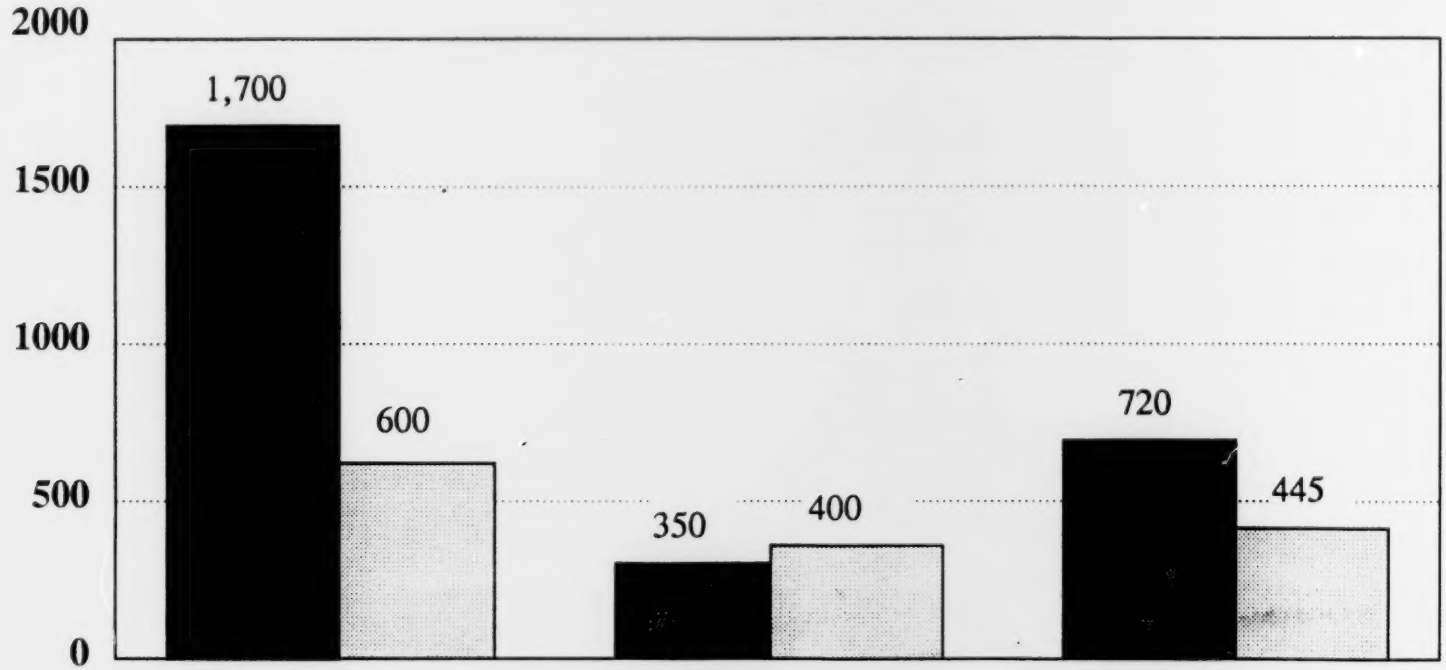
COMPANY XYZ OPERATIONS

PRODUCTION UNITS PER DAY



	FUEL	AIR	COIL
1993 ■	1,700	350	720
1992 □	600	400	445

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COMPANY XYZ OPERATIONS
PRODUCTION UNITS PER DAY

Refer to the accompanying graph to answer the following questions:

1. What is the difference in production per day between 1992 and 1993 of furnaces? air handler units? coils?

2. How many furnaces were made in all 1992? in 1993?

3. How many less air handler units were made in all of 1993 than in 1992? What are some possible reasons for this decrease in production?

4. If the coil production increased at the same rate between 1993 and 1994 as it did between 1992 and 1993 how many coils would you expect to be made in 1994?

5. Make a new bar graph that shows the production levels per week instead of the production levels per day.

6. Make a circle graph that shows the relative production levels for all three products for 1992.

7. Make a second circle graph that shows the relative production levels for all three products for 1993.

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COMPANY XYZ OPERATIONS
PRODUCTION UNITS PER DAY

1. What is the difference between a bar graph and a circle graph? When would you use a bar graph and when would you use a circle graph?

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MATH LAB ◆ SESSION 4

OBJECTIVES:

Upon completion of this session, students will be able to:

- read and write decimals using a place value chart
- express common fractions as decimals
- compare decimals

TOPICS:

- place value of decimals
- converting fractions to decimals
- comparing decimals

METHOD:

- lecture
- discussion
- groupwork

EVALUATION:

- self evaluation based on discussion of the work sheets

MATERIALS:

- handouts:
  - ◊ Understanding Decimals
  - ◊ Converting Fractions to Decimals

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CONVERTING FRACTIONS TO DECIMALS

Why are these coins called quarters?

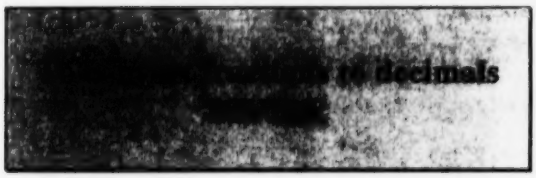
How many are in one dollar?

One quarter is written $\frac{1}{4}$ or \$.25

$\frac{1}{4}$ also means 1 out of 4

or $1 \div 4$

or $4\overline{)1.00}$



One half dollar is written $\frac{1}{2}$ or \$.50

There are 10 dimes in a dollar therefore a **dime** would be written:

$\frac{1}{10}$ or \$.10

There are 20 nickels in a dollar therefore a **nickel** would be written:

_____ or _____
fraction decimal

There are 100 pennies in a dollar therefore a **penny** would be written:

_____ or _____
fraction decimal

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DECIMAL FRACTIONS

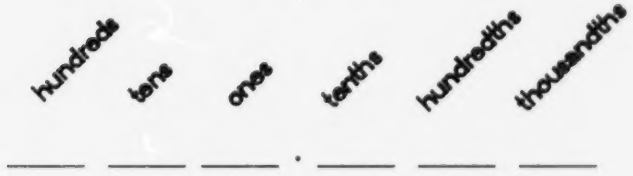
To read a decimal fraction, read the number as a whole number, then say the name of the place value where the last digit falls.

The following three numbers all have the same value:

0.5 is read as 5 tenths

0.50 is read as 50 hundredths

0.500 is read as 500 thousandths



The value of a number is determined by its place or location compared to the *decimal point*. A number has many different values depending on which place it is in.

Circle the largest number in each pair:

.1	.01
.6	.60
.6	.09

The decimal point is usually not written in whole numbers but it can be put in.

◊ Where is the decimal point understood to be in the number 592?

◊ What is half of .1?

◊ What is twice as big as .8 ?

◊ How much money would .8 represent?

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DECIMAL FRACTIONS

Express Common Fractions as Decimal Fractions

To express a common fraction as a decimal fraction requires division of the numerator by the denominator.

With repeating decimals, the division should be carried out one more place than the number of places required in the answer, then rounded.

Example: express $\frac{5}{7}$ as a 2 place decimal

$$\frac{5}{7} = 5 \div 7 = 7\overline{)5.000} = .71$$

Express Decimal Fractions as Common Fractions

Read the place value of the last digit.

Example: $0.357 = \frac{357}{1000}$

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MATH LAB ◆ SESSION 5

OBJECTIVES:

Upon completion of this session, students will be able to:

- add and subtract decimals
- multiply and divide decimals

TOPICS:

- arithmetic operations with decimals
- problem solving

METHOD:

- lecture
- discussion of worksheets
- groupwork

EVALUATION:

- self evaluation based on discussion of the work sheets

MATERIALS:

- handouts: Working With Decimals

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USING DECIMALS

There are shortcuts you can use when multiplying decimals by 10, 100 and 1000. To multiply a decimal by 10, move the decimal point **one place to the right.**

EXAMPLE: 5.879 X 10 = 58.79

Now try multiplying by 100 and 1000. What happens to the decimal point?

5.879 X 100 = **5.879 X 1000 =**

Now try dividing. What happens to the decimal point?

35.465 ÷ 10 = **35.465 ÷ 100 =** **35.465 ÷ 1000 =**

1. 5.1 x 10
2. 3.27 ÷ 100
3. 5.8 ÷ 20
4. 4.5 x 100
5. 3.25 ÷ 10
6. 4.7 x 100
7. 3.875 x 100
8. 3.21 x 20

9. A forklift can safely lift and move five thousand pounds. There are already boxes weighing 105.5 pounds, 300 pounds and 3 thousand pounds on the lift. How much more weight can be added?

10. Four hundred parts were made in a seven and a half hour day. How many parts per hour is that?

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USING DECIMALS

11. Compare these decimals. Indicate which one is smallest in each pair:

.001	.0010
.029	.03
.067	.076

12. Add the following

137.64 + 7 + .008 + 6.1 =

63 + 4.7 + 19.45 =

13. Subtract the following:

159 - 72.4

4.7 - 3.12

140 - 16.412

14. Sheets of steel are stacked to a height of 4 inches on a pallet. The metal sheets are .025 inches thick. How many are on the pallet?

15. A board is measured to be 6 inches in length. A piece measuring .95 inches is cut from it. How much is left?

16. A pallet is being loaded by an operator with his stampings which weigh 2.4 pounds each. How many can he stack on the pallet if the operator has a weight limit of 600 pounds?

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USING DECIMALS

17. Multiply the following:

3.7 X .015 =

14.1 X 1.7 =

18. Divide the following:

36 ÷ 1.2 =

75 ÷ 20.4 =

19. Determine the following:

What is half of .5?

What is half of .1?

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ADDITION/SUBTRACTIONS SKILLS

- add/subtract decimals, mixed decimals and whole numbers
- add/subtract decimal fractions

Adding and Subtracting Decimal Fractions

To add decimal fractions:

(1) arrange the numbers so that the decimal points are directly under each other,

(2) add, as with whole numbers and

(3) place the decimal point in the answer directly under the other decimal points.

e.g. Add 5 + .02 Subtract 3.07 - .005

5.	3.070
.02	- .005
5.02	3.065

Note: To reduce the possibility of error, place zeros in all place values which have no digits.

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MULTIPLICATION AND DIVISION SKILLS

- multiply and divide decimal fractions
- multiply and divide decimals, mixed decimals, and whole numbers

Multiplying Decimal Fractions

To multiply decimal fractions, multiply using the same procedure as with whole numbers. Place the decimal point in the answer the same number of decimal places as there are in both numbers being multiplied.

e.g.

	50.123	(3 places)
x	0.87	(2 places)
	43.60701	(5 places)

Dividing Decimal Fractions

To divide decimal fractions, (1) move the decimal point of the divisor as many places to the right as are necessary to make the divisor a whole number, (2) move the decimal point in the dividend the same number of places as were moved in the divisor, (3) place the decimal point in the quotient directly above the decimal point in the dividend, (4) add zeros to the dividend if necessary, and (5) divide as with whole numbers. Round as required.

e.g. Divide 0.643 by 0.28.
Round to 3 decimal places

$$.28\overline{)0.643000} = 2.2964 \approx 2.296$$

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MATH LAB ◆ SESSION 6

OBJECTIVES:

Upon completion of this session, students will be able to:

- determine upper and lower tolerance limits
- determine if a measurement lies within a tolerance interval

TOPICS:

- tolerance intervals

METHOD:

- lecture
- discussion of worksheets
- groupwork

EVALUATION:

- self evaluation based on discussion of the work sheets

MATERIALS:

- handouts

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TOLERANCES

- compute tolerances based on upper and lower limits of dimension

In industry, the tolerance of a part or component is the acceptable amount that the part or component may vary from a given size.

Definitions

Tolerance is the amount of variation permitted on the dimensions or surfaces of manufactured parts.

A basic dimension is the standard size from which the maximum and minimum limits are determined.

Limits are the extreme permissible dimensions of a part.

The tolerance interval is equal to the difference between the upper and lower limits.

If the tolerance of the length of a piece is 3.5" ± .125"

then the length of the piece has:

- an upper limit of 3.625 inches.
- a lower limit of 3.375 inches

The tolerance interval is the difference between the upper and lower limit.

$$\begin{array}{r} 3.625 \\ -\ 3.375 \\ \hline .25 \end{array}$$

Tolerances can also be written as follows:

2.625"	upper limit
2.375"	lower limit

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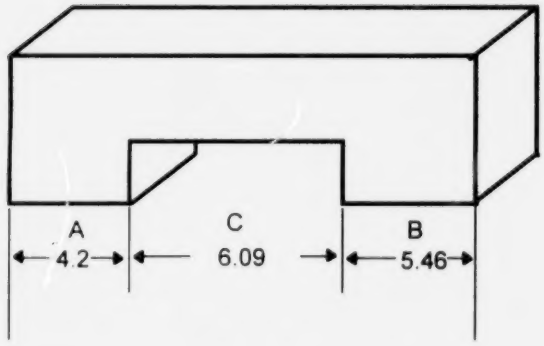
TOLERANCE

1. A piece is cut to the dimensions shown. Has it been cut to within the specifications?



Specifications on the blueprint:

A = 4.21 ± .02

B = 5.38 ± .02

C = 6.1 ± .02

2. Washers are to be manufactured to the following thickness: .275 ± 0.002. An inspector measures and records the following thicknesses for six washers.

0.2702	0.278	0.276
0.27	0.274	0.275

Which ones are defective?

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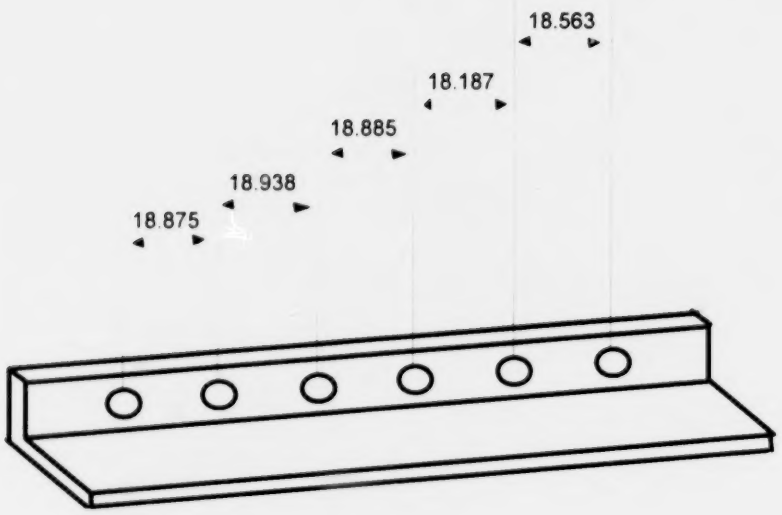
TOLERANCE

3. The drawing below gives the actual locations of six holes drilled in a length of angle iron.



The blue print specifies that the distance from center to center of all the holes should be within the following tolerance interval:

18.8 ± .125 inches

Which holes are drilled incorrectly?

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MATH LAB ◆ SESSION 7

OBJECTIVES:

Upon completion of this session, students will be able to:

- convert measurements from feet to inches
- know the difference between linear feet and square feet

TOPICS:

- measurement conversions
- area

METHOD:

- discussion of worksheets
- groupwork

EVALUATION:

- self evaluation based on discussion of the work sheets

MATERIALS:

- handouts

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UNITS OF MEASURE (ENGLISH)

- express an English unit of measure in larger or small units of measure

The ability to measure with tools and instruments and to compute measurements is a basic requirement in the machine trades. Presently, the United States uses the English system of measure. Although this system includes all types of measure (length, area, volume, capacity), the machine trades use length measure most often.

English Units of Linear Measurement

1 yard (yd.) = 3 feet (ft.)
1 yard (yd.) = 36 inches (in.)
1 foot (ft.) = 12 inches (in.)

Expressing English Units of Measure as Smaller/Larger Units

To express a larger unit of length as a smaller unit of length, multiply the given length by the number of smaller units contained in one of the larger units.

e.g. express 2 feet as inches

since there are 12 inches in 1 foot,

multiply 2 by 12

2 x 12 = 24

so 2 ft = 24 in

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UNITS OF MEASURE (ENGLISH)

To express a smaller unit of length as a larger unit of length, divide the given length by the number of smaller units contained in one of the larger units.

e.g. express 67 inches as feet

since there are 12 inches in 1 foot,

divide 67 by 12

$12\overline{)\,67}$ $\begin{matrix}5\\ \\ \end{matrix}$ remainder 7

so 67 inches = 5 feet 7 inches

OR

$67 \div 12 = 5.583$

so 67 in. = 5.583 ft.

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MEASUREMENTS

1. A worker has a sheet of metal 81 inches long. He needs to cut two pieces of metal each 39 inches long. How long is the sheet of metal that is left over?

2. One sheet of metal is .5 inches thick. How thick is a stack of sheet metal with 13 sheets?

3. A worker has two pieces of sheet metal. One is 5′ 6″ long. The other is 8′ 9″ in length. How much sheet metal is there altogether?

4. From a piece of sheet metal 2′ 8″ long a worker cut ′ 9″. How long was the sheet of metal that was left over?

5. A sheet metal worker orders 30 square feet of sheet metal. Draw a picture of this piece of metal using graph paper. How many linear feet is your piece of metal? What is the difference between square feet and linear feet?

6. Name five situations at home or on the job where you would need to measure something using linear feet or inches. Name five situations in which you would need to use square feet or square inches.

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MATH LAB ◆ SESSION 8

OBJECTIVES:

Upon completion of this session, students will be able to:

- convert fractions to decimals to percents
- calculate a percent of a number

TOPICS:

- understanding percents
- operations with percents

METHOD:

- discussion of worksheets
- groupwork

EVALUATION:

- self evaluation based on discussion of the work sheets

MATERIALS:

- handouts

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LABOR AGREEMENT

The new three year Labor Agreement reached in Clarksville was ratified by a 3 to 1 vote favoring acceptance. Here are some highlights from the agreement:

- **PAY INCREASES by:**

◊ 1st year – 80 cents
◊ 2nd year – 50 cents
◊ 3rd year – 40 cents

The average hourly wage in Hawley before the above increase was $15.40

The average hourly wage rate in Tulson is $12.21

- **PENSION INCREASED to:**

◊ 1st year – $20.00 per year of service
◊ 2nd year – $20.50 per year of service

The maximum in Tulson is already $21.00 per year of service.

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QUESTIONS ON LABOR AGREEMENT READING

1. What is the pay increase for the first year of the contract?

2. How much more is the average hourly rate in Tulson as compared to Hawley? What does *average hourly rate* mean?

3. Your salary last year was $12.10 per hour. How much did you make per week last year? How much in the entire year? (40 hours per week, 52 wk./yr.)

4. Figure out your weekly salary after the first year increase; after the second year increase; after the third year increase.

5. How much will you make for the entire year after each increase?

6. If you are in the 20% tax bracket, how much will be taken out in taxes each year?

7. Before the vote was taken, there was discussion of giving all workers a 3% increase instead of the 40 cent increase the first year. If you make $20 per hour how much would your increase have been? If you make $10 per hour how much would your increase have been?

8. The agreement was ratified by a 3 to 1 vote. Does this mean that 3 people voted for it and 1 against?

9. Give some examples of the numbers of people who could have voted for and against this agreement given that it was approved by a 3 to 1 margin.

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MATH LAB ◆ SESSION 9

OBJECTIVES:

Upon completion of this session, students will be able to:

- read a pay check

TOPICS:

- reading a pay check

METHOD:

- discussion
- completion of worksheets

EVALUATION:

- self evaluation based on worksheets

MATERIALS:

- handouts: Problem Solving

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PAYCHECK

GROSS PAY **OTHER DEDUCTIONS**

Description	Hours	Amount	Description	Amount	YTD Amount	**Empl. No.** 20331
Regular	40.00	8.90	Unemp-Tax	15.30	76.50	**Soc. Sec. #** 124-55-3385
			Medical	14.53	72.65	**Week Ending** 2 / 4 / 94
			401K Invst.	9.48	47.40	**Check Date** 2 / 9 / 94
Gross Wage		356.00			1780.00	**Check No.** 7364

CURRENT INFORMATION

Gross Pay	Fed. W/H Tax	F.I.C.A.	State Tax	City/ County Tax	Total Other Deduct.	**NET PAY**
356.00	89.75	31.78	14.93	N/A	39.91	179.63
1780.00	448.75	158.90	74.65	N/A	196.55	901.15

YEAR TO DATE

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PAYCHECK

GROSS PAY **OTHER DEDUCTIONS**

Description	Hours	Amount	Description	Amount	YTD Amount	**Empl. No.**
Regular			Unemp-Tax Medical 401K Invst.			**Soc. Sec. #** **Week Ending** **Check Date** **Check No.**
Gross Wage						

CURRENT INFORMATION

Gross Pay	Fed. W/H Tax	F.I.C.A.	State Tax	City/ County Tax	Total Other Deduct.	**NET PAY**

YEAR TO DATE

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PAYCHECK

This is a **sample paycheck stub** but as you can see, not all of the information is on the check. Look at the information provided about this employee and write it in the paycheck stub in the correct places.

$ This paycheck belongs to **Karen Hopkins.** Karen's social security number is 223-57-8694. Her employee number is 20344.

$ This week, Karen worked her regular 40 hours per week. Her gross wage is 8.75 per hour. What would her gross total week's pay be?

$ So far this year, Karen's gross income is $5600.

$ The check number is 7387.

$ The company takes out for unemployment tax and this week they took out $11.24. So far this year, they have taken out $179.84.

$ The pay period ends 4/23/93. The check will be dated for a week later.

$ For Medical insurance, the company takes out $21.15 for each paycheck, and so far this year has taken out $338.40.

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PAYCHECK

$ Karen has a 401K Investment through the company, also. This check they took out $43.66. So far this year Karen has set aside $698.56 into that investment.

$ The Federal Government withholds $57.89 from every one of Karen's paychecks. They have withheld $926.24 so far this year.

$ Karen has money taken out for Social Security. This paycheck they took out $20.34 so far. So far this year they have taken out $325.44.

$ The State also takes out taxes from Karen's check. Every week they take out $12.01. So far this year they have taken out $192.16.

$ $ BONUS questions of the day !!!! $ $

$ What was the *total* of her **deductions**?

$ What was Karen's **NET PAY** for this paycheck?

$ This is week 16 of the year. What is Karen's **NET PAY** *for the year so far*?

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MATH LAB ◆ SESSION 10

OBJECTIVES:

Upon completion of this session, students will be able to:

- evaluate their progress in the course
- evaluate the course

TOPICS:

- class evaluations
- post test

METHOD:

- completion of evaluation sheets
- completion of the post test

EVALUATION:

- grade on the post test

MATERIALS:

- class evaluation sheets
- post test

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MATH LAB POST-TEST

1. You need to make 2000 pieces. You have just finished 89. How many remain to be completed?

2. Add: $5.92 + $12.

3. In one month, the first week you spent $56 on groceries. The second week you spent $30, the third week $72 and the fourth week $60. What was the average amount of money you spent per week on groceries?

4. Subtract: $150 - $.99

5. Which number is larger: 2.7 or 2.70?

6. A pallet is being loaded by an operator with his stampings which weigh 10 pounds each. How many can the operator stack on the pallet if he has a weight limit of 300 pounds?

7. Multiply: 40 X 900,000

8. In the number 5812.57 what place is the 1 in?

   A. thousands B. hundreds C. tens D. ones

9. A role of sheet metal runs through a press at 35 ft./min. If it runs for 1 hour how much material will be used?

10. Divide: 416 ÷ 4

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POST TEST KEY

1. 1911
2. 17.92
3. 54.5
4. 149.01
5. same
6. 30
7. 36,000,000
8. C. tens
9. 2100 feet
10. 104

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